

**METHOD AND SYSTEM FOR FABRICATING NANOSCALE  
PATTERNS IN LIGHT CURABLE COMPOSITIONS  
USING AN ELECTRIC FIELD**

ABSTRACT OF THE DISCLOSURE

[0038] A high-throughput lithography process for creating high-resolution patterns in a polymerizable composition using carefully controlled electric field followed by curing of the polymerizable composition is described. The process involves the use of a template that includes the desired patterns. This template is brought into close proximity to the polymerizable composition on the substrate. An external electric field is applied to the template-substrate interface while maintaining a uniform, carefully controlled gap between the template and substrate. This causes the polymerizable composition to be attracted to the raised portions of the template. By appropriately choosing the various process parameters such as the viscosity of the polymerizable composition, the magnitude of the electric field, and the distance between the template and substrate, the resolution of the structures formed in the liquid may be controlled to conform to that of the template.